



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 23901.4-2019

**Non-destructive testing -- Image quality of radiographs -- Part
4: Experimental evaluation of image quality values and image
quality tables**

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Foreword

GB/T 23901 "Non-destructive testing - Image quality of radiographs" is divided into 5 parts:

- Part 1: Determination of the image quality value using wire-type image quality indicators;
- Part 2: Determination of the image quality value using step/hole-type image quality indicators;
- Part 3: Image quality classes;
- Part 4: Experimental evaluation of image quality values and image quality tables;
- Part 5: Determination of the image quality unsharpness and basic spatial resolution value using duplex wire-type image quality indicators.

This Part is Part 4 of GB/T 23901.

This Part is drafted in accordance with the rules given in GB/T 1.1-2009.

This Part replaces GB/T 23901.4-2009 "Non-destructive testing - Image quality of radiographs - Part 4: Experimental evaluation of image quality values and image quality tables". As compared with GB/T 23901.4-2009, the main changes are as follows:

- Delete normative references (See Clause 2 of the 2009 edition);
- Modify terms and definitions (See Clause 2; Clause 3 of the 2009 edition);

- Modify Figure 1 and the corresponding key;
- CHANGE the expression in Chinese of "Image quality of radiographs"

[Translator note: There is another expression for "Image quality of radiographs" in Chinese].

This Part, using translation method, is identical to ISO 19232-4:2013 "Non-destructive testing - Image quality of radiographs - Part 4: Experimental evaluation of image quality values and image quality tables".

This Part was proposed by and shall be under the jurisdiction of National Technical Committee 56 on Non-destructive Testing of Standardization Administration of China (SAC/TC 56).

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The previous editions of the standard replaced by this Part were released as follows:

- GB/T 23901.4-2009.

Non-destructive testing - Image quality of radiographs

- Part 4: Experimental evaluation of image quality

values and image quality tables

1 Scope

This Part of GB/T 23901 gives instructions for the determination of image quality values and image quality tables.

This Part applies to the experimental evaluation of image quality values and image quality tables during radiographs. If the IQI requirements specified in GB/T 23901.3 cannot be used because, for example, the absorption coefficients of the IQI material and the inspected material differ by more than 30 %, test exposures are necessary to determine acceptance of image quality values. The image quality values achieved by the test exposures are suitable for testing the object under the same radiographic conditions.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1 Image quality indicator; IQI

Device comprising a series of wires or steps with holes of graded dimensions which enable a measure of the image quality to be obtained.

Note: Image quality indicator may also be expressed in terms of IQI [Translator note: There is additional 1 name in Chinese]. The type of image quality indicator is usually a wire-type or a step/hole-type.

2.2 Image quality

Characteristic of a radiographic image which determines the degree of detail

which it shows.

2.3 Image quality value

Measure of the image quality required or achieved and is equal to the finest wire or smallest hole which can be detected on the radiograph.

Note: Image quality value may also be expressed in terms of IQI sensitivity [Translator

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